

## ABSTRACT

In order to automate the positioning at the steps of reference position teaching and normal manufacturing at respective ports at the start-up of an equipment in a semiconductor manufacturing equipment equipped with a positioning device and a carrying robot and enhance productivity, 2 points  $W_1$  and  $W_2$  at which the circumference of a disc-like object 47 such as a wafer and the locus 43 of a detection means cross are detected, and the center position A of a disc-like object is calculated using the specific point O on the perpendicular bisector 42 of the section of a line combining 2 points with these and the radius r of the disc-like object, in the present invention. Thereby, the carrying robot could carry out the positioning work and not only the correction of a carrying route but also the reference position teaching at the start-up of equipment could be automated using the result. When there is a notched portion, the circumference of a disc-like object is detected by 2 loci of the detection means and a correct center position is detected. Further, a mix manufacturing using wafers with different diameters can be also carried out by detecting the circumferences of disc-like objects with an unknown radius by the 3 loci of the detection means and determining the radius.